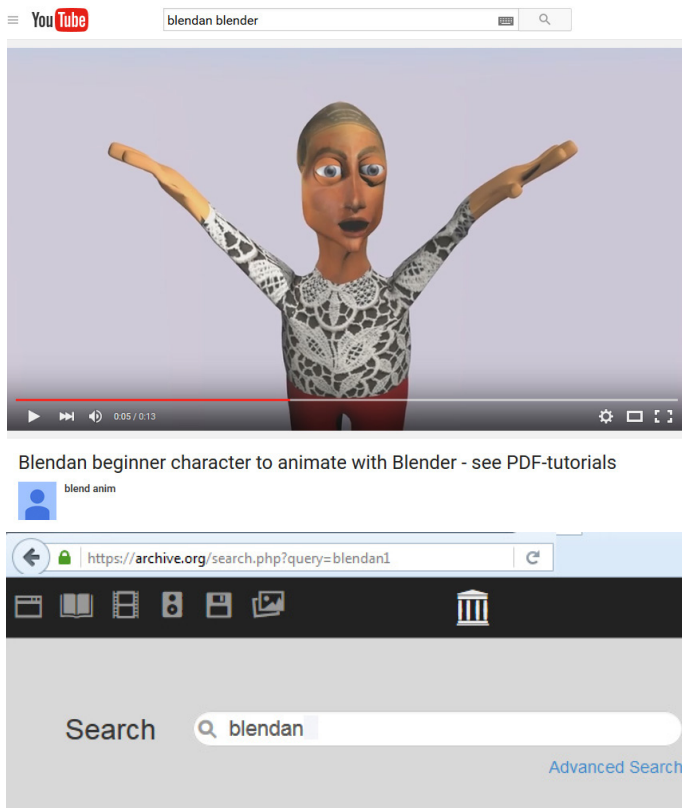


Blendan 8 animation p. 1



This tutorial is on how to create a simple character called Blendan you can find here <https://www.youtube.com/watch?v=6b5h7j0qexw>

The tutorials parts and the Blender-file you can search for on <https://archive.org/>:
blendan_0_intro.pdf
blendan_1_head.pdf
blendan_2_body.pdf
blendan_3_seams.pdf
blendan_4_texture.pdf
blendan_5_skeleton.pdf
blendan_6_eyes.pdf
blendan_7_mouth_eyelids.pdf
blendan_8_animation.pdf

The tutorial is made with Blender 2.74

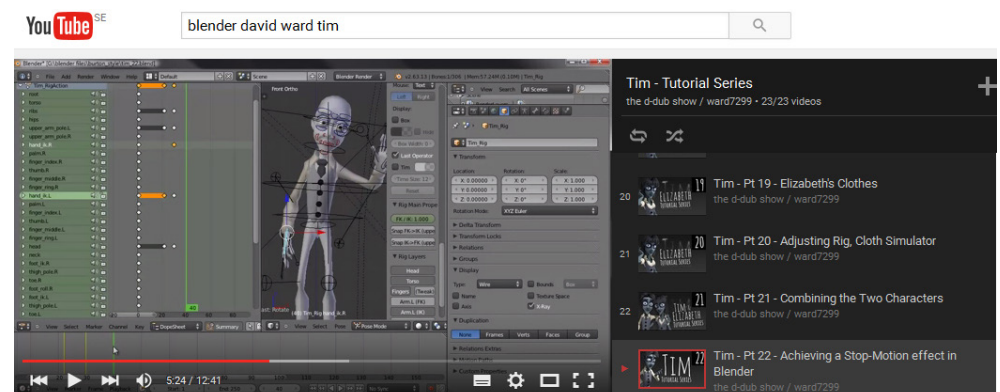
On youtube.com you can search for David Ward's Groundhog.

In part 4 you can listen to how he creates an image of the groundhog - renders it but you don't find anything about animation in this tutorial.

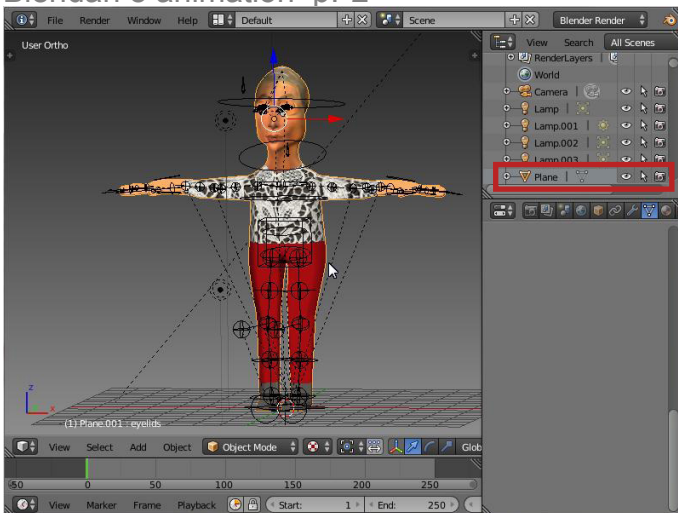


Character Modeling: Creating a Cartoon-Style Groundhog - Part 04

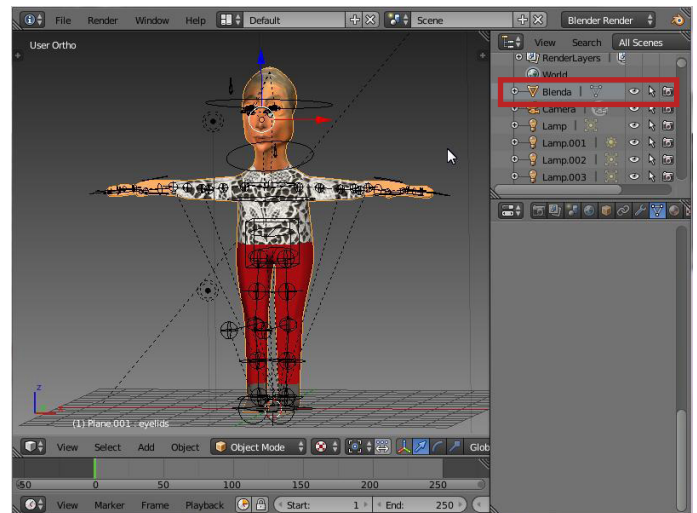
In David Wards Tim part 22 he tells how to animate the character Tim. A lot of stuff to listen to and learn from.



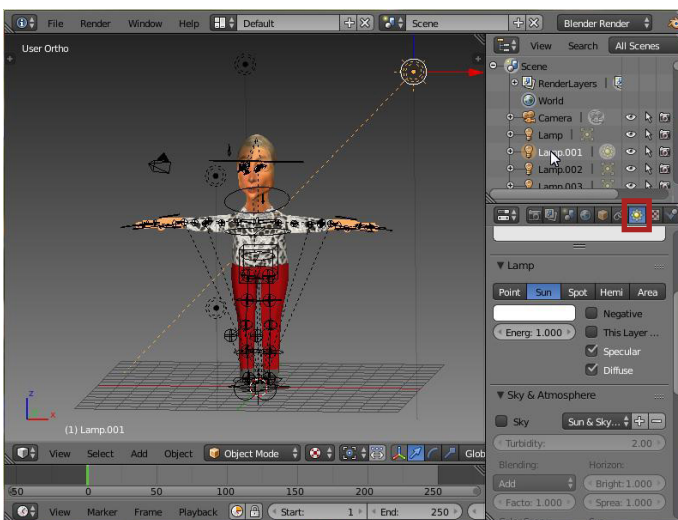
Tim - Pt 22 - Achieving a Stop-Motion effect in Blender



The character Blenda has been created from a Plane so in the Outliner she is named Plane.



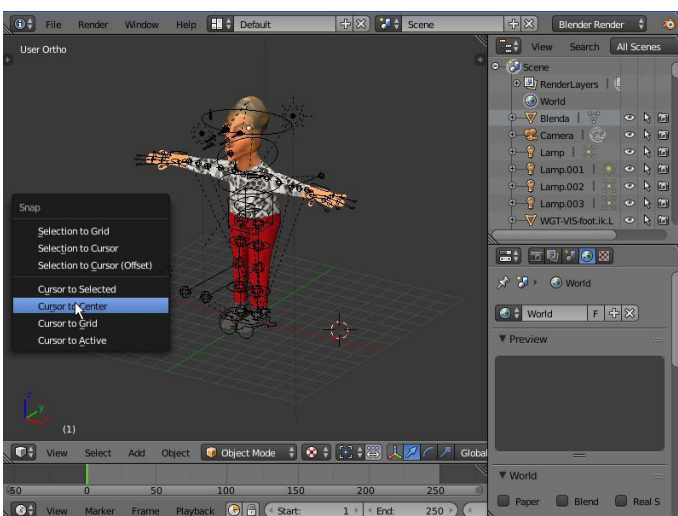
So you can rename the Plane to Blenda and will be a bit easier to find her.



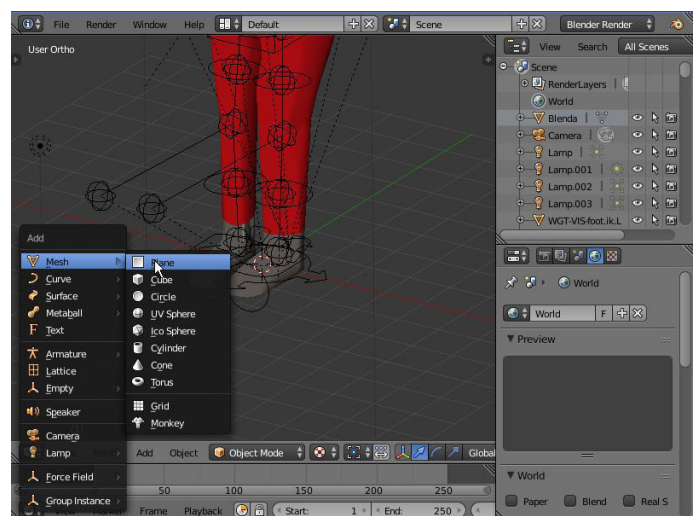
Before you begin to animate you better check the lightning on the scene. Now there are three lamps of type Point and one of the is of type Sun. The sunbeams you can rotate with R - to change their direction.



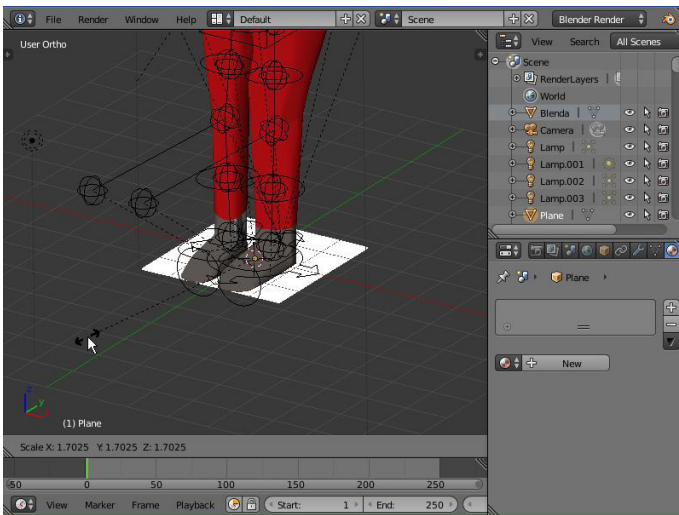
Under the same tab you can tick Sky and get a sky behind the character Blenda. When you render you get a result like above.



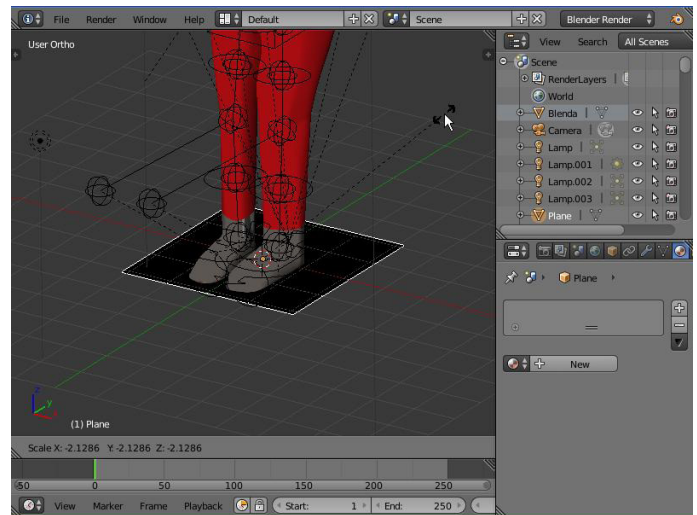
Blenda needs something to stand upon - a floor made from a Plane.
SHIFT+S and choose Cursor to Center and the floor will be created under Blenda's feet.



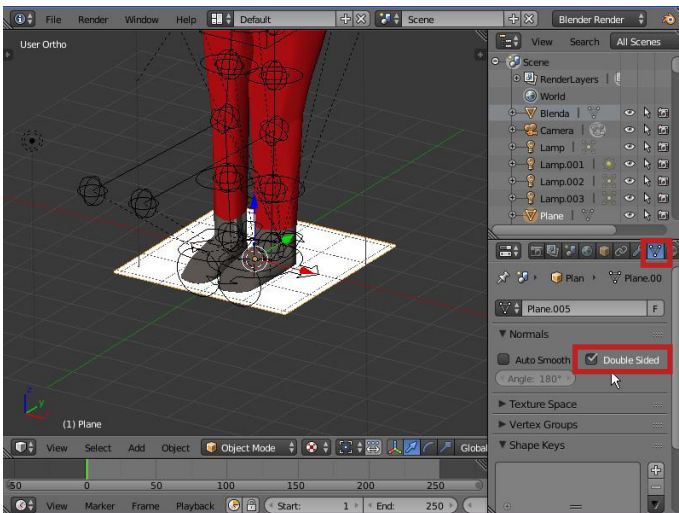
SHIFT+A and choose Mesh > Plane to create the floor.



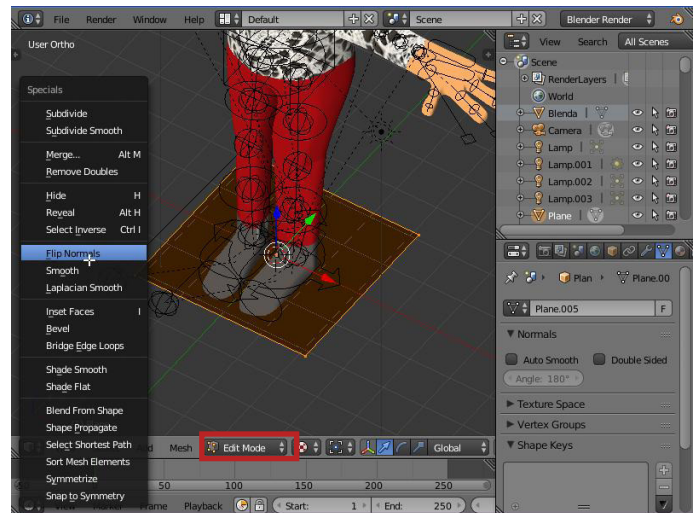
S - to scale up the floor. It shows up as a white surface.



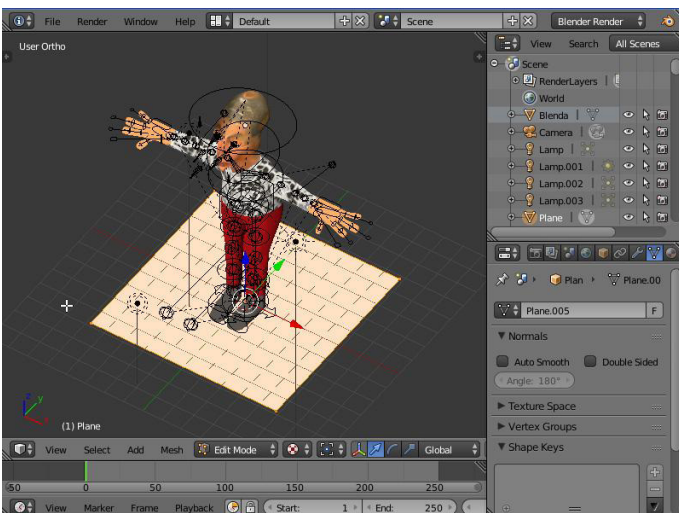
If you scale the other way around the surface turns black - the backside of the Plane is black



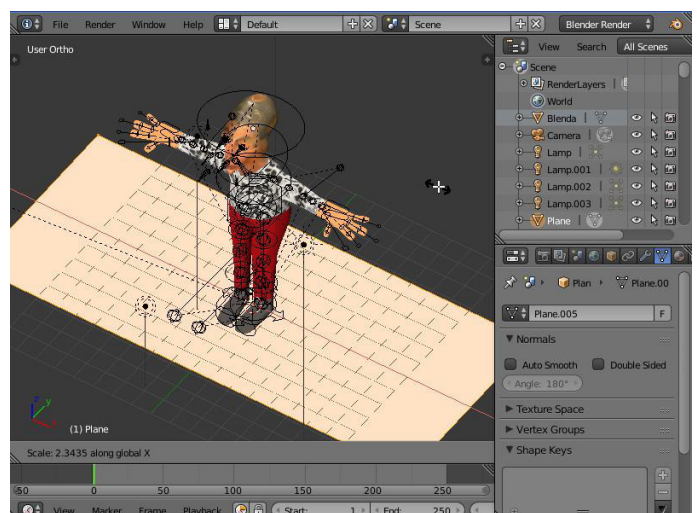
You can go to the tab Data and tick Double Sided and the Plane is colored white. Now it takes a little more time to render because both sides are rendered so if you have a lot of one sided objects on the scene don't tick Double Sided.



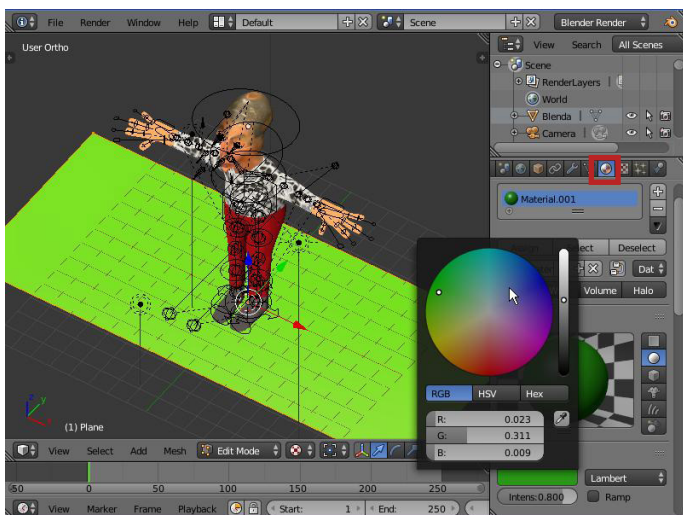
Alternatively you can go to Edit Mode and then - W - and choose Flip Normals and the Plane is only colored white on the upper side.



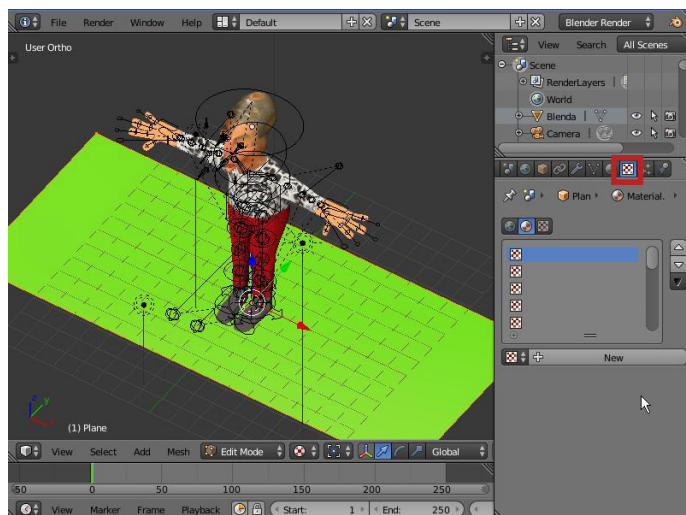
S - to scale the plane to make it larger both on the length and the breadth.



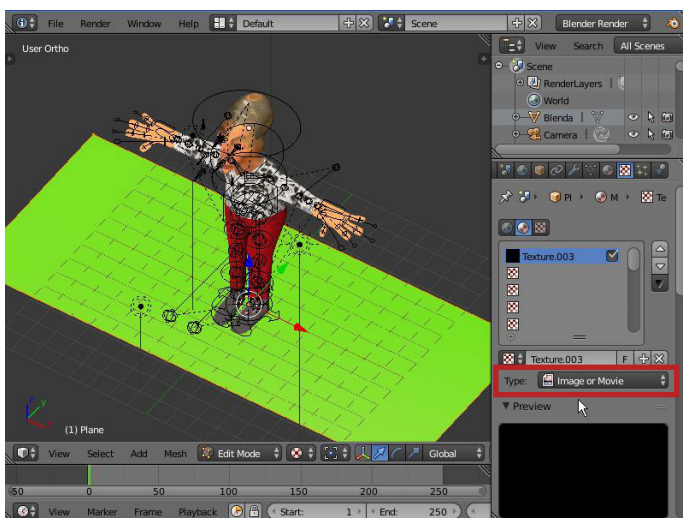
S+X - to scale only along the X-axes.



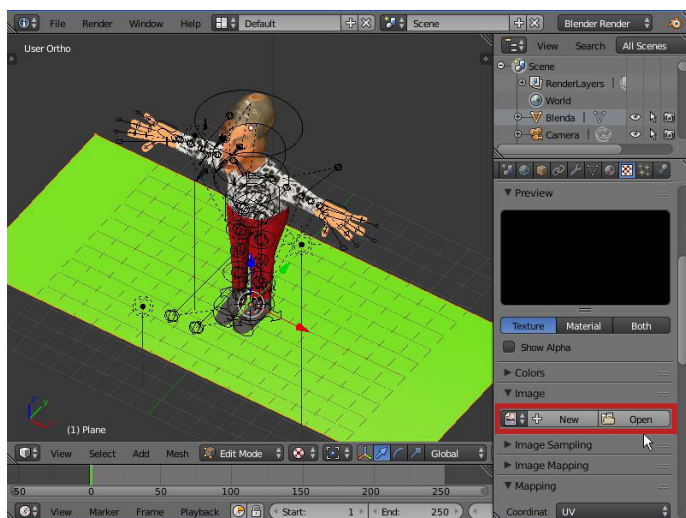
On the tab Material you can click New and then the button Diffuse to color the plane.



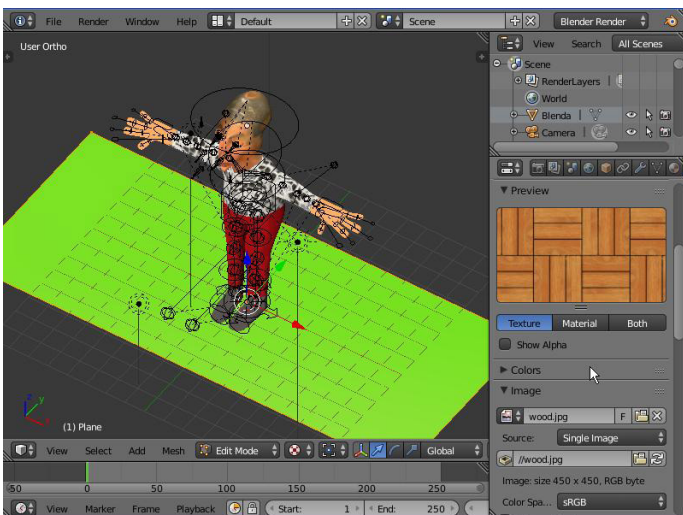
On the tab Texture you can click New to choose some image to use as a floor material.



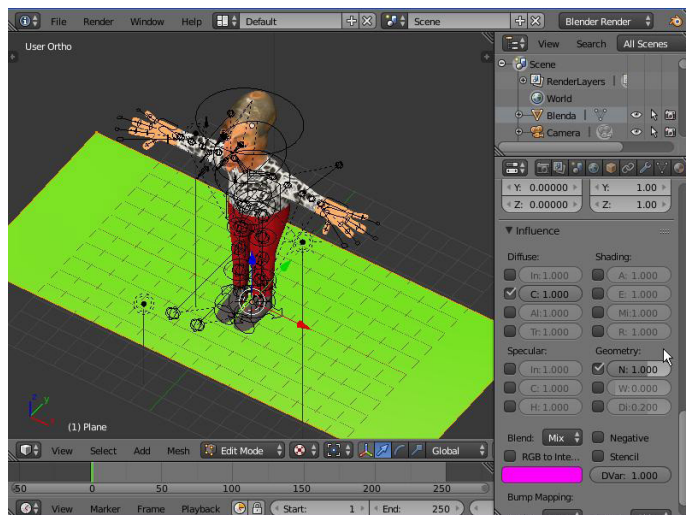
You have to choose Image or Movie



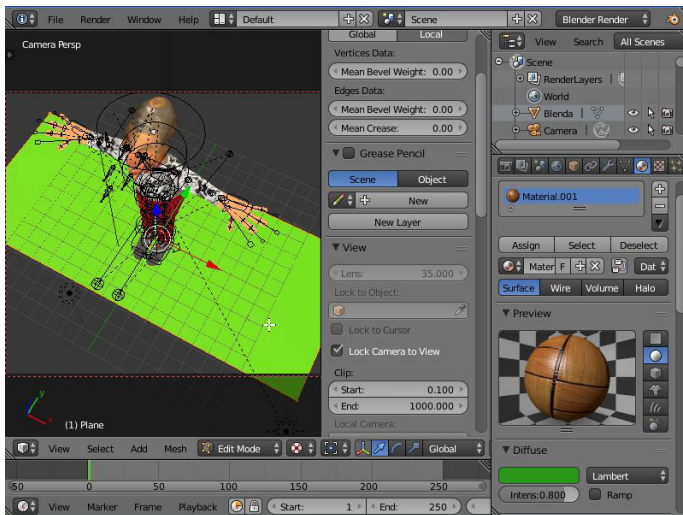
Then you have to go to your hard drive and search for an image file.



This file wood.jpg is a square with wood material.



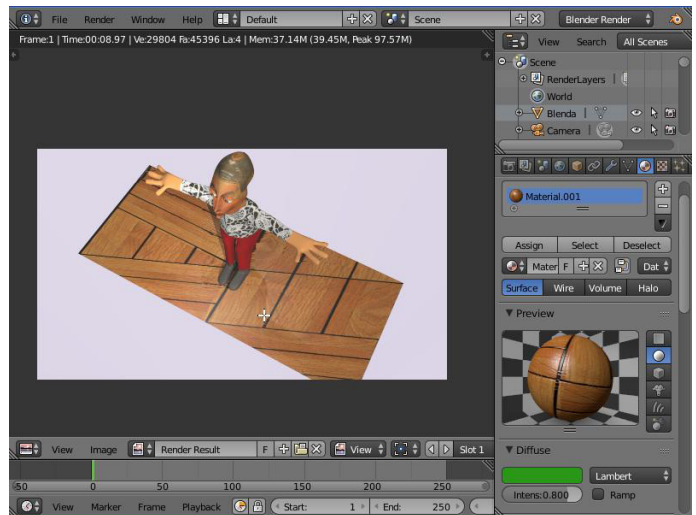
A bit down on the menu Color is ticked. You can also tick Geometry and the image will be used as a bumpmap to give the material more rendered structure. You can also use a grey scale image - open it. And place it under the texture image and tick Geometry only for that one to use it as a bumpmap image. And let the texture image only having Color ticked.



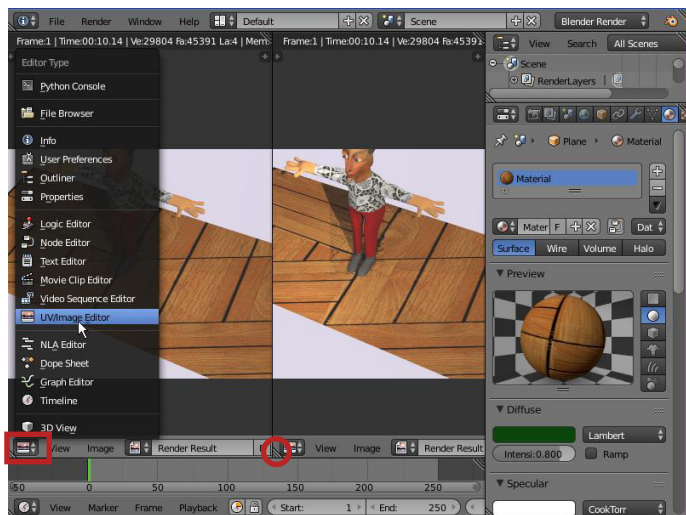
Under the Material tab now the texture shows up. And you can render to see the result.

0 - for the camera view

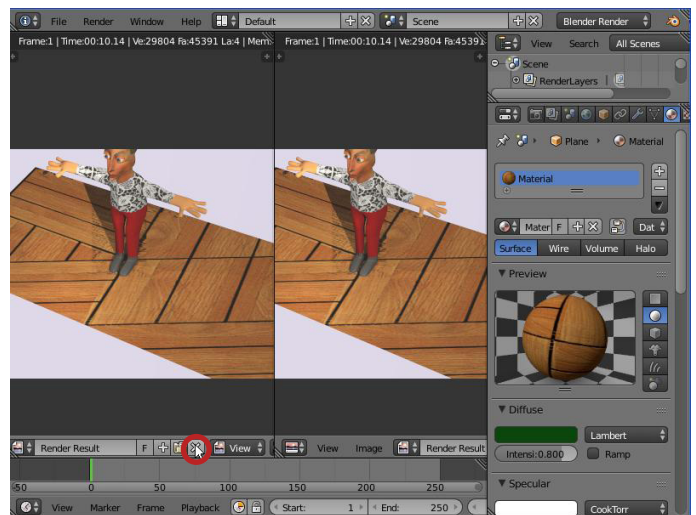
N - for the Properties menu and you can tick Lock Camera to View and zoom, pan and rotate in the camera view.



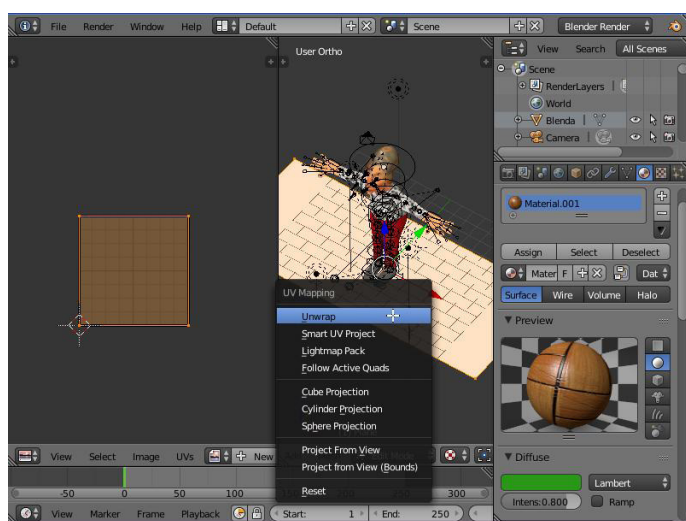
The result is not the expected.



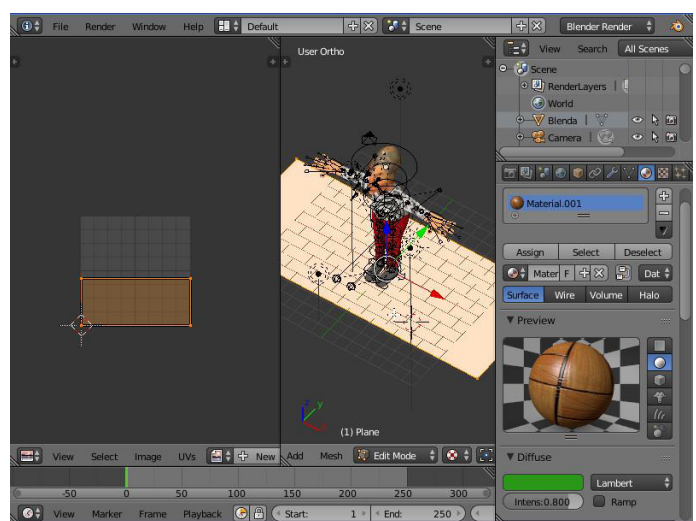
Drag in the little triangle to the right of the 3D windows lower left corner to make a new window and choose to make it to an UV/Image Editor window.



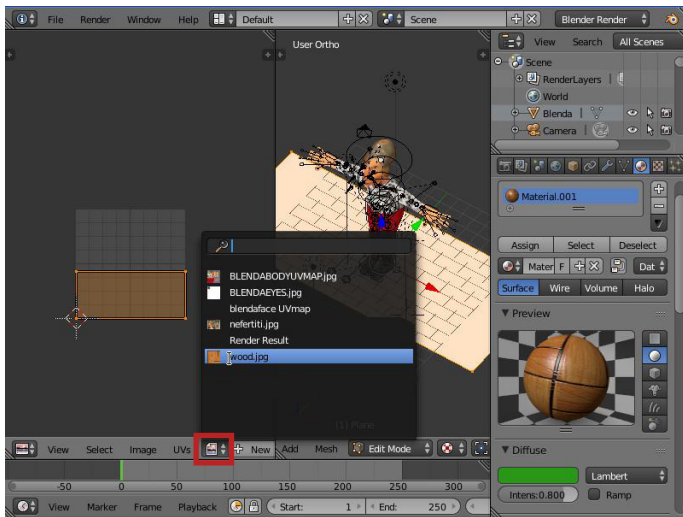
The image has also been rendered in the UV/Image Editor. Click the little cross to close it.



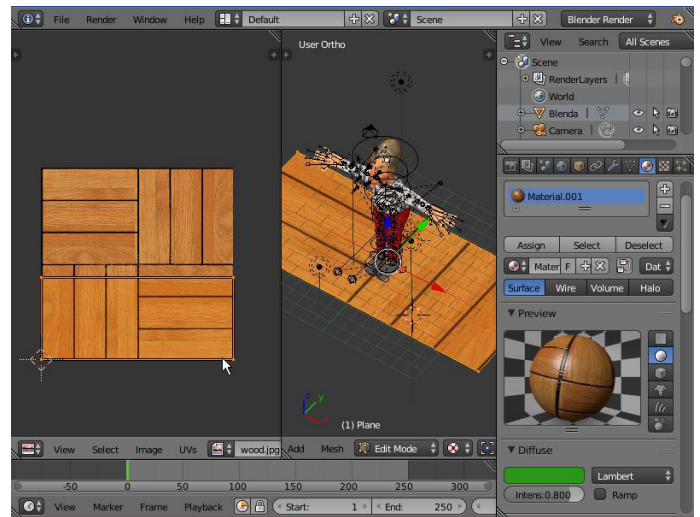
Select the plane and go to Edit Mode and
A - to select all the plane and then
U - and choose Unwrap



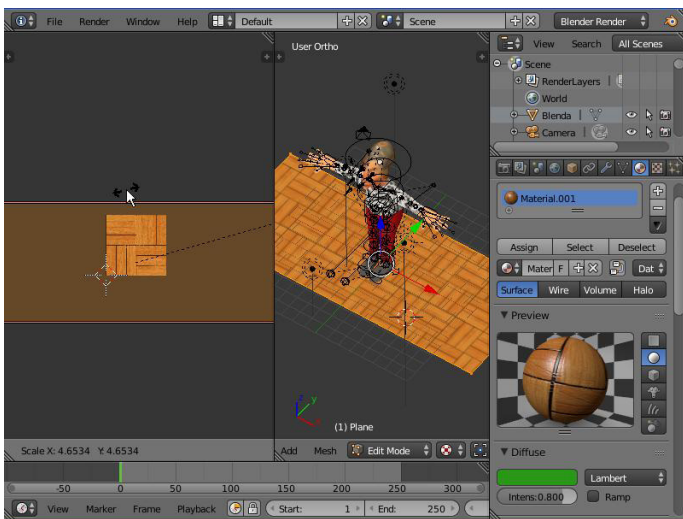
A rectangle with the same proportions as the plane will show up in the UV/Image Editor.



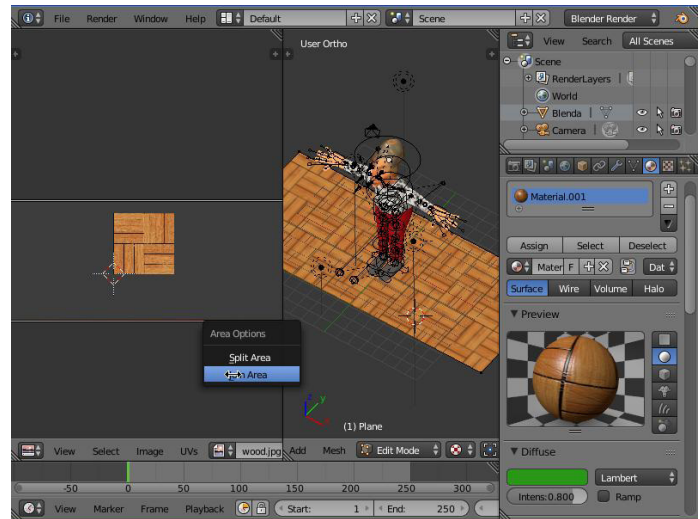
Open then the texture-image wood.jpg



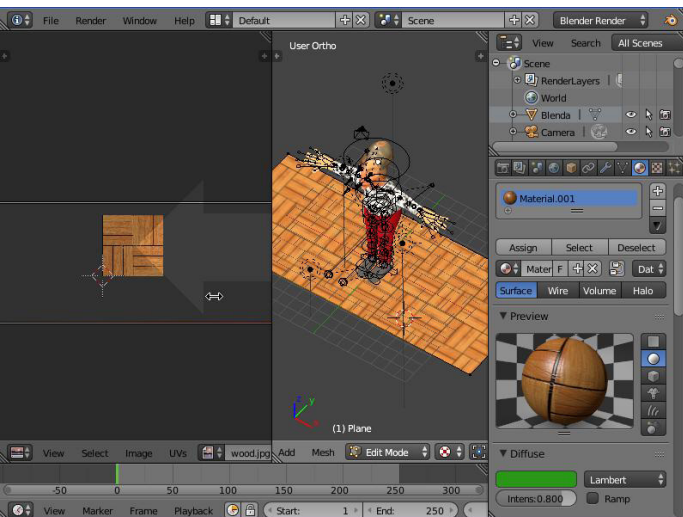
The image will show up in the UV/Image Editor



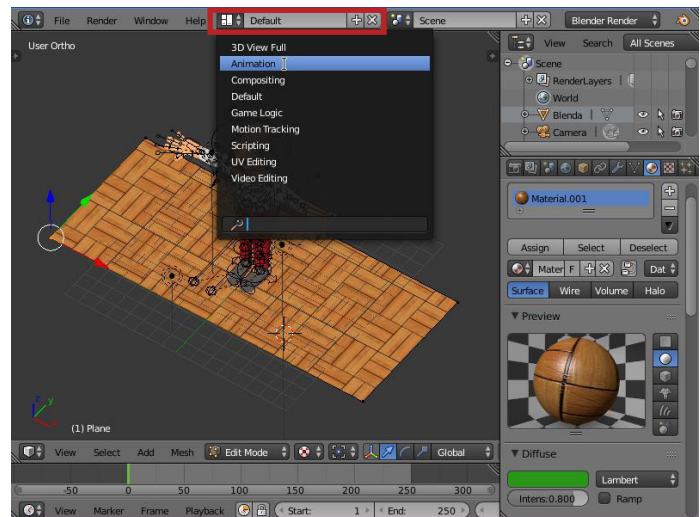
A - to select the rectangle in the UV/Image Editor.
S - scale the rectangle to a useful size.



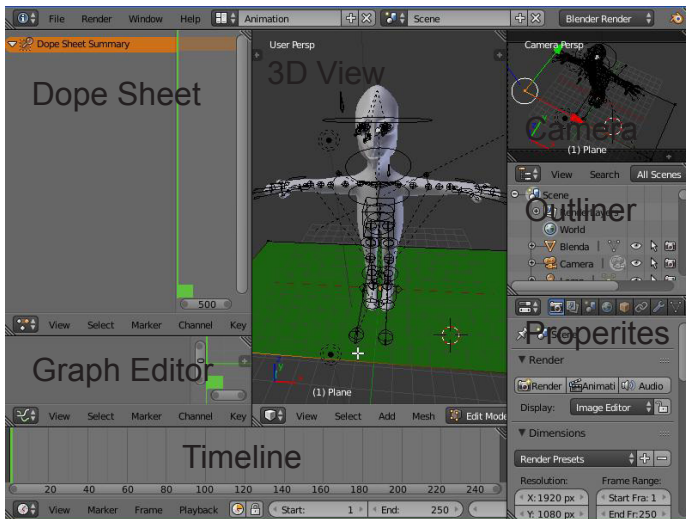
To close the UV/Image Editor window place the mouse pointer between the two windows and right click to get a menu and select Join Area.



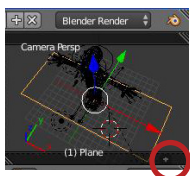
An arrow turns up - choose the direction of the UV/Image Editor window and the 3D window will be left.



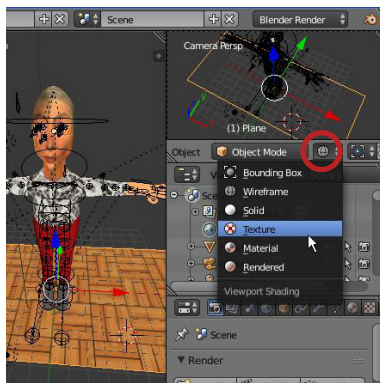
You can choose another window staging more suitable for animation.



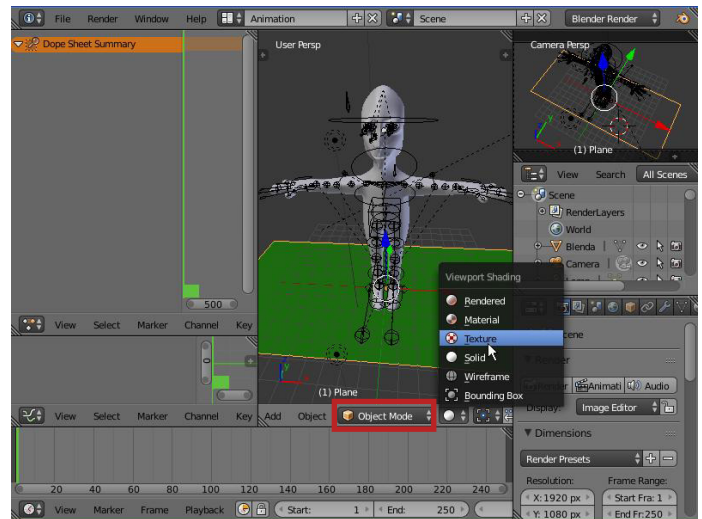
The new window staging for animation.



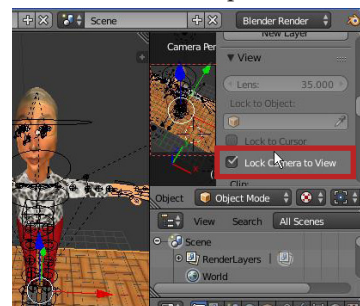
In the Camera window there is a tiny plus-button which opens a menu.



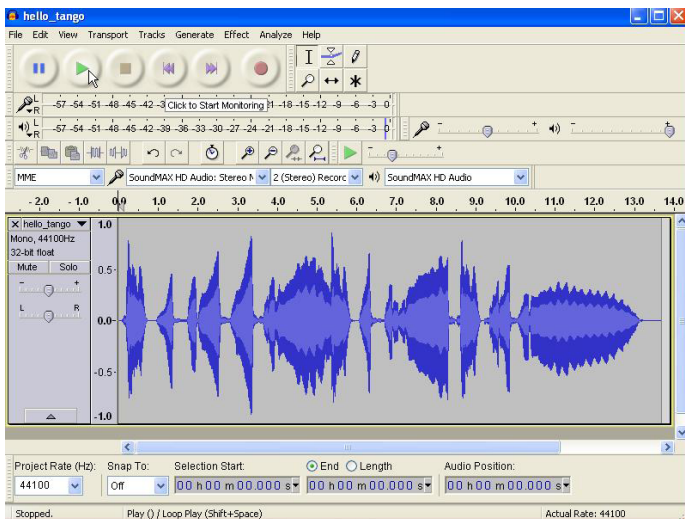
From the menu you can choose Texture



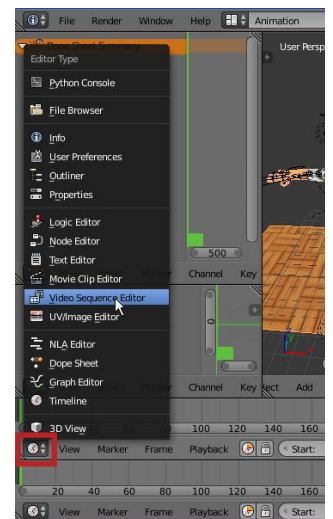
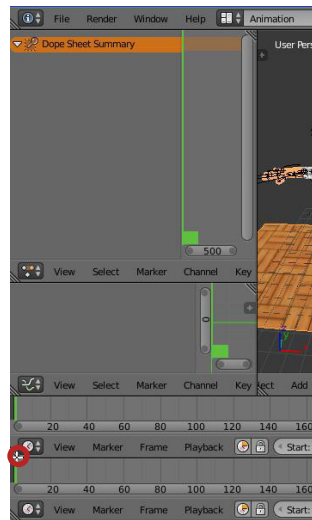
In the 3D window go to Object Mode and choose Texture and Blender will show up colored.



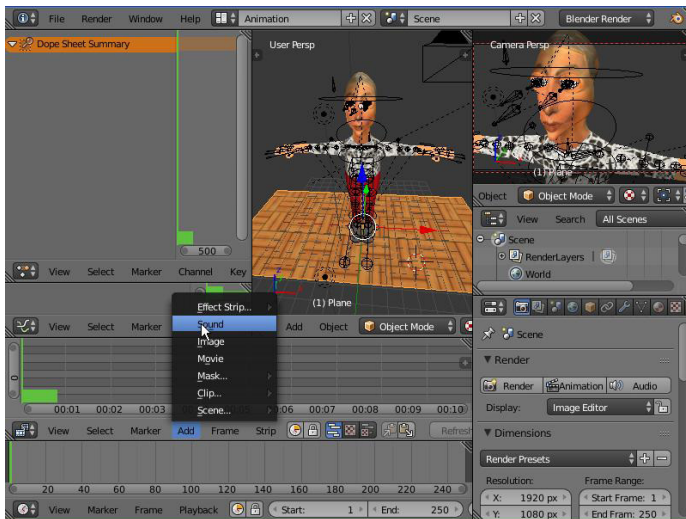
N - and you get the Properties menu and choose to tick Lock Camera to View and you will see what the camera sees when you are animating and you can control Blender's appearance in the 3D window without moving the camera.



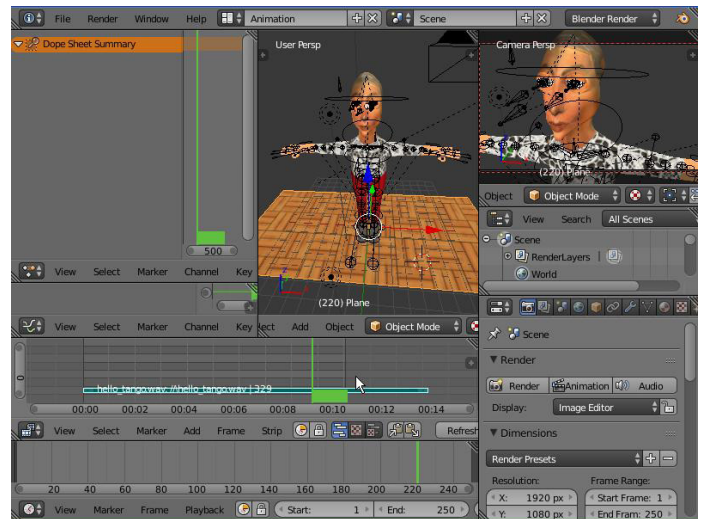
In the free program Audacity you can work with sound. The file `hello_tango.wav` consists of some tango-beats and there are also three Hellos pasted in among the rhythms. The sound file is short - Slightly less than 14 seconds. It is good to have a short sound file so you don't get to many frames to animate. The file is saved in the file format .wav in mono and 44 kHz.



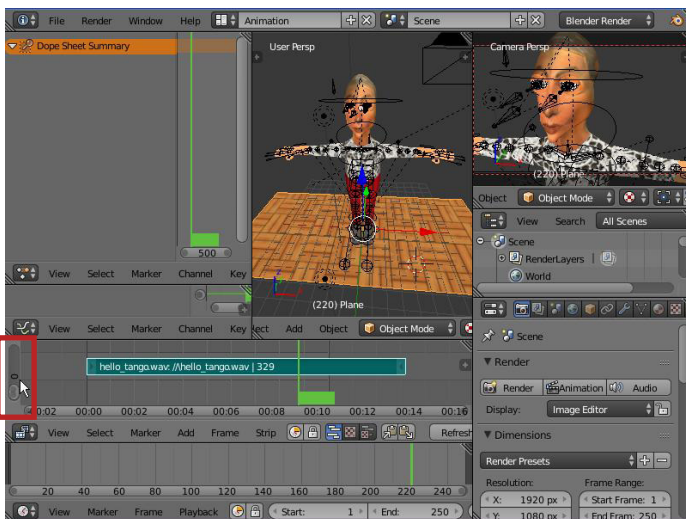
To open the sound file in Blender open a new window by dragging upwards in the little triangle in the Timeliner windows lower left corner. And then select Video Sequence Editor for the new window.



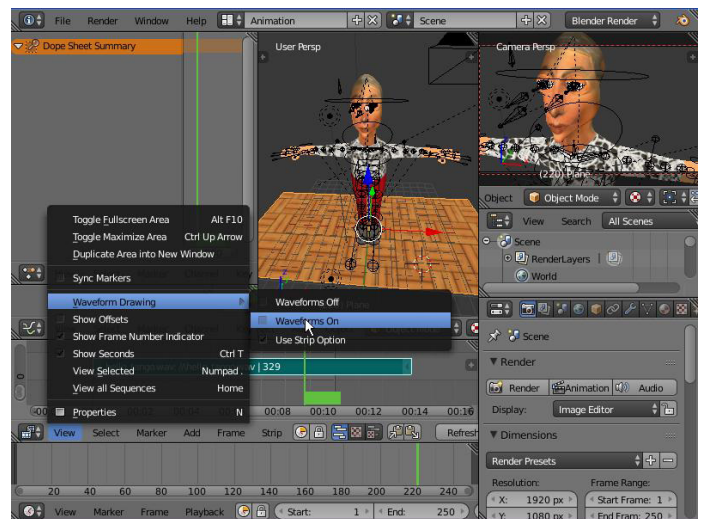
Go to Add and choose Sound to open the file from the hard drive.



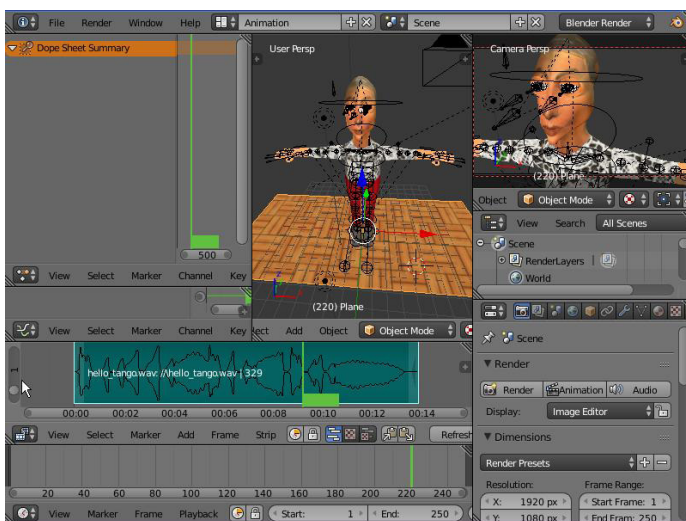
The file will show up in the Video Sequence Editor.



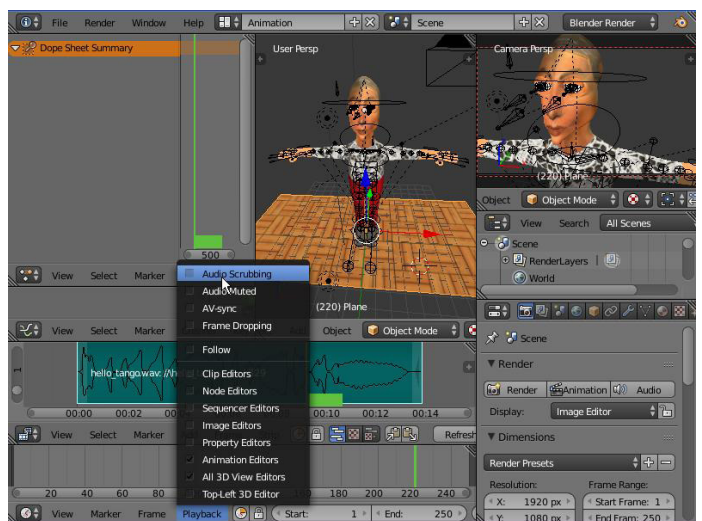
You can choose to see more of the file - increase the height.
 You can zoom it - roll the mouse wheel.
 Hold down the mouse key to move it
 or use - G - to move it.
 It is about 14 seconds long and will take up 329 frames.



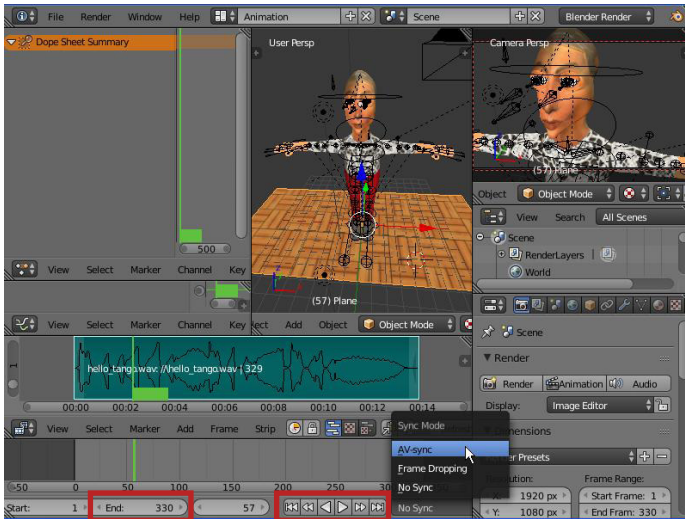
Go to View > Waveform Drawing > Waveforms on
 and you can have a look on the sound waves.



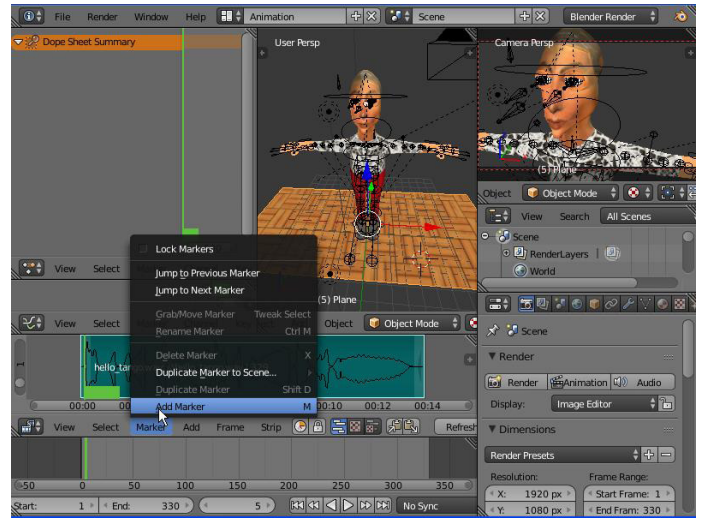
This is how the sound looks.



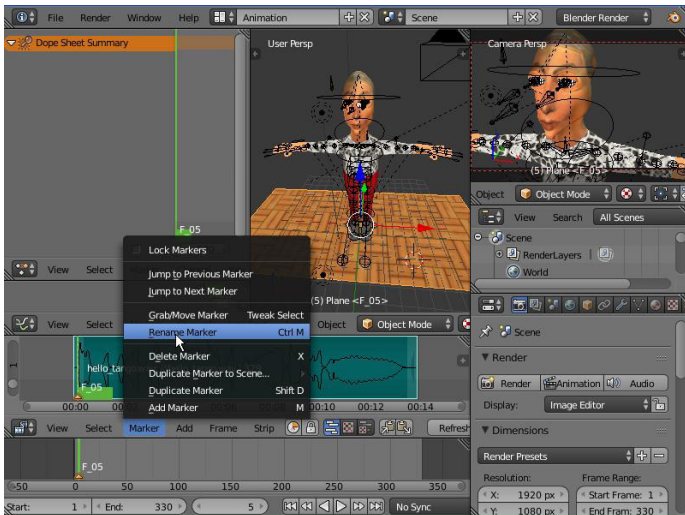
To be able to listen to it when you drag in the green line along the timeline - go to Playback > Audio Scrubbing.
 Then drag in the green line and listen to the sound.



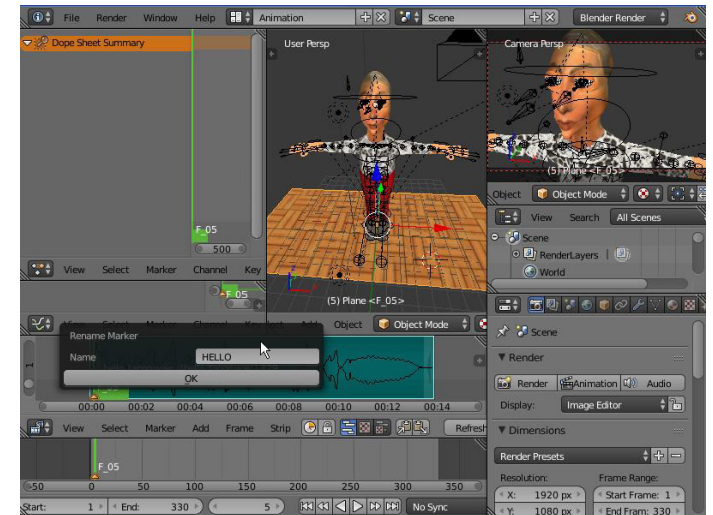
Fill in the length of the sound file plus some extra frames.
And you can play it to listen to it.
You can choose AV-sync to make sound and animation to sync
or if the animation is heavy - your computer is not able to sync
there is the alternative No Sync.



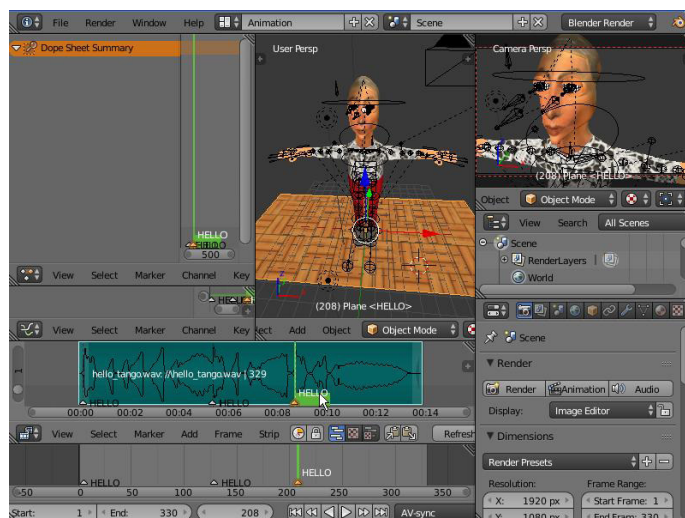
To know which frame the word Hello starts on you can go to that frame and then Marker > Add Marker



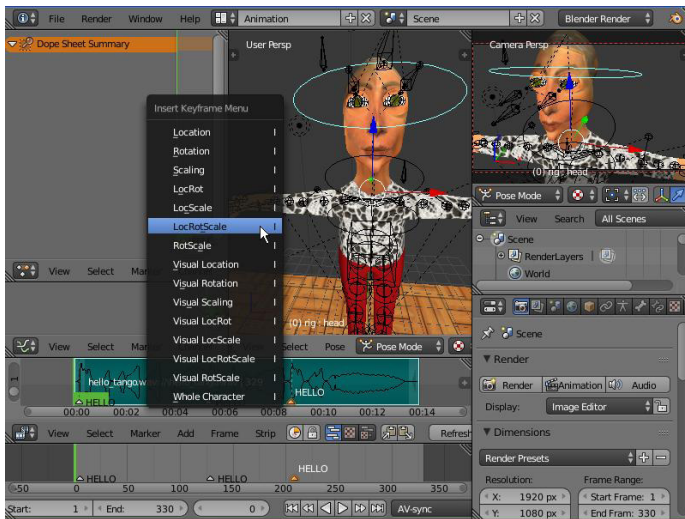
Then you can choose Marker > Rename Marker to name the frame.



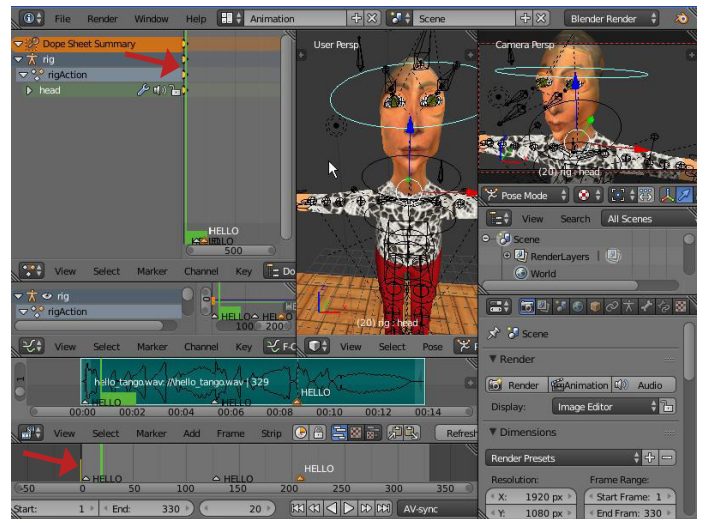
Here is the frame named to HELLO.



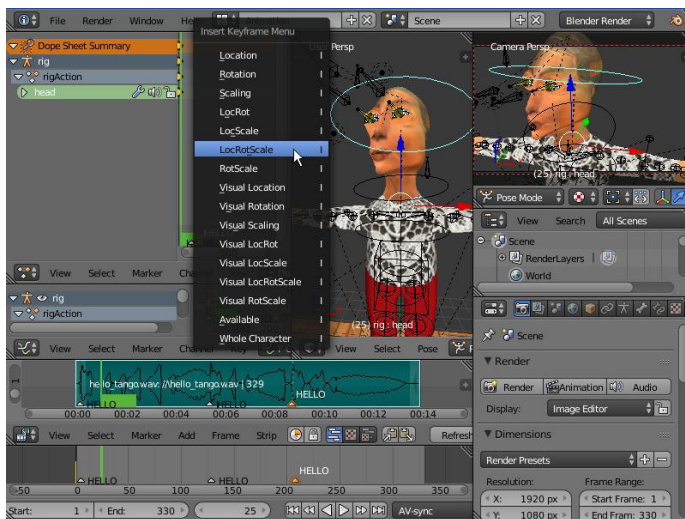
Here the three hellos has got their own markers.



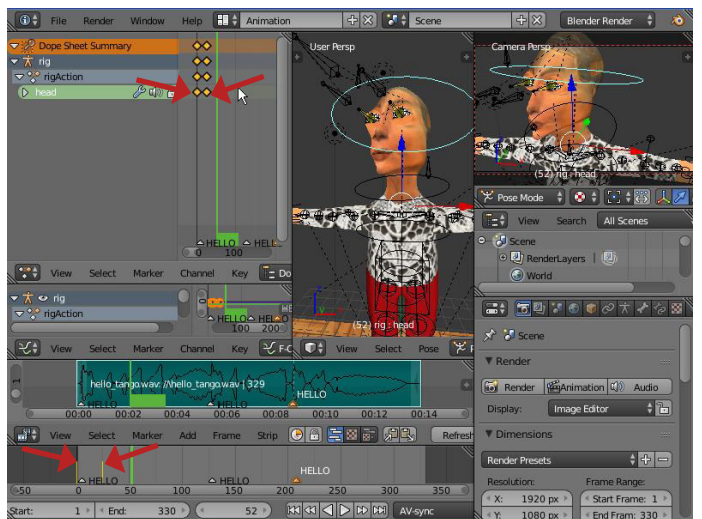
To animate the heads position go to frame 0 and mark the heads rig in Pose Mode and then I - and choose LocRotScale and Blender will remember the heads position.



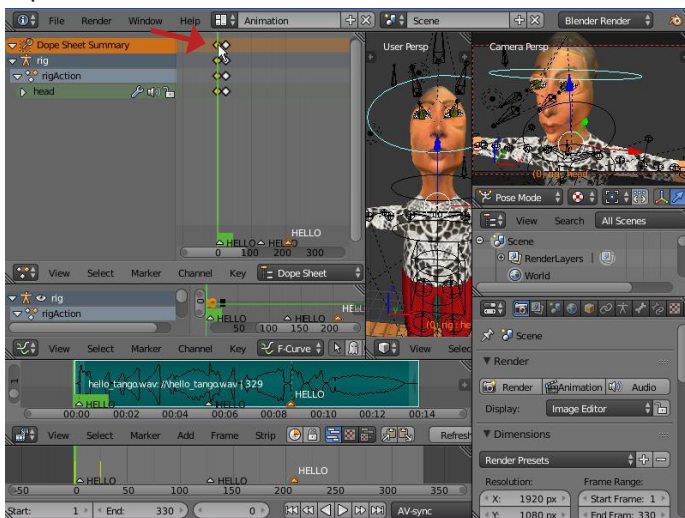
Move some frames forward along the timeline and you will see a yellow line on frame 0. It shows that frame 0 now is a key-frame. And also in the Dope Sheet window you can see a yellow spot.



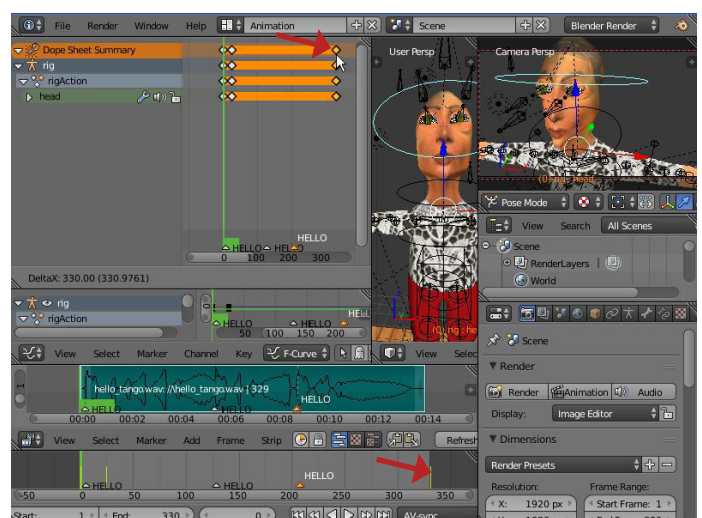
The head has been rotated on frame 25 and then I - to make a new keyframe with LocRotScale. Blender will now automatically rotate the head between the two keyframes.



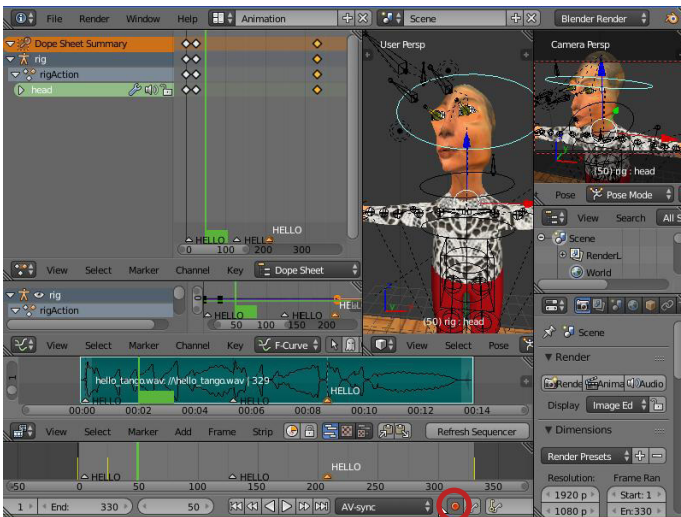
Moving a bit along the timeline you can see the two yellow lines in the Timeline window and also two yellow spots in the Dope Sheet window.



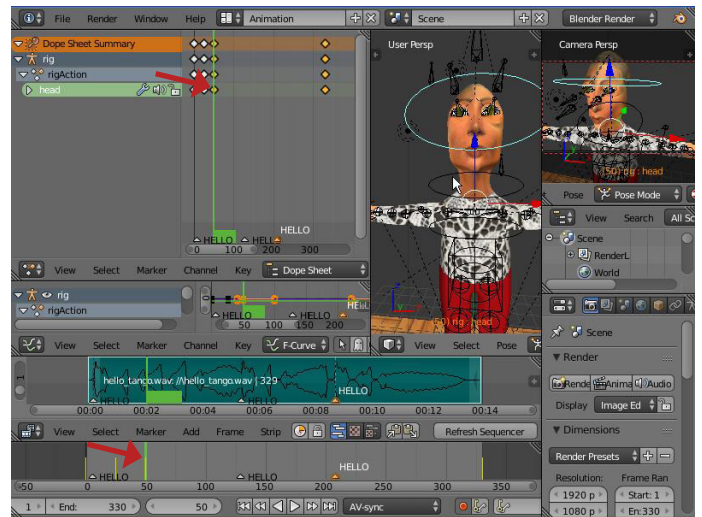
If you want the head to have the same position on the last frame as on the first frame - you can mark the first frame in the Dope Sheet window and then SHIFT+D to make a copy of the yellow spots.



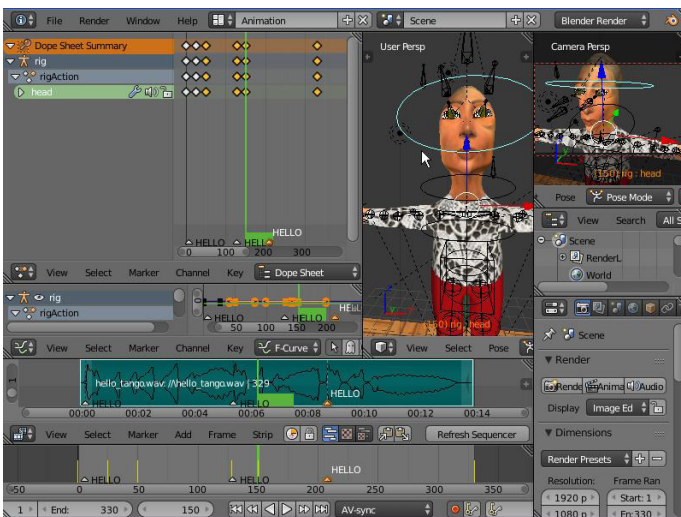
And move the copy to the last frame.



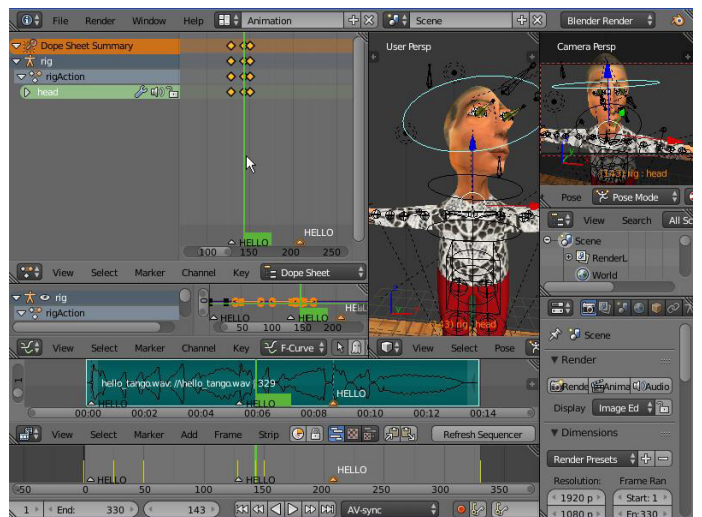
You can create keyframes automatically when rotate something in the rig, move or scale the rig. Just mark the little red button and Blender will create keyframes automatically.



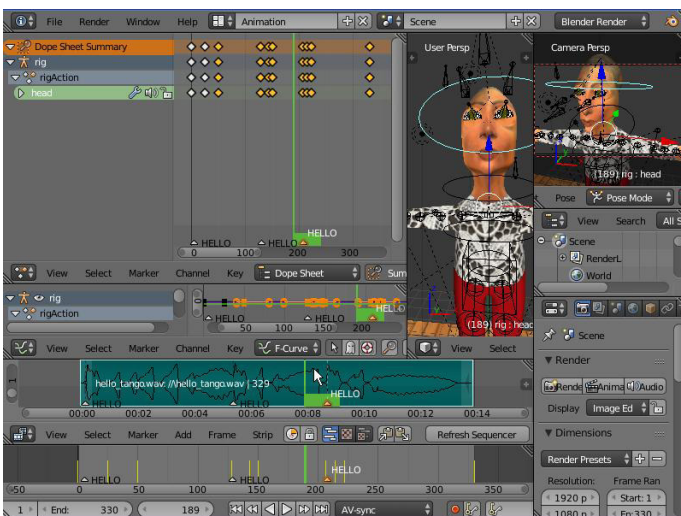
Now if you go to frame 50 and then rotates the head a keyframe will be automatically created for the heads rotation.



If you want Blender to turn the head when she says hello you have to go to frame marked HELLO and turn a little on the head and then go to a frame a bit forward eg. frame 150 and turn a little on the head to also get a keyframe on that frame.

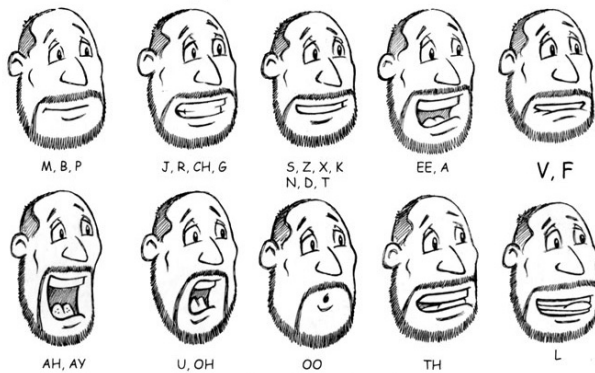


Then you go to somewhere between the two keyframes and really turns the head to get a keyframe between the two earlier keyframes. Now the character Blender will move the head when she says hello.

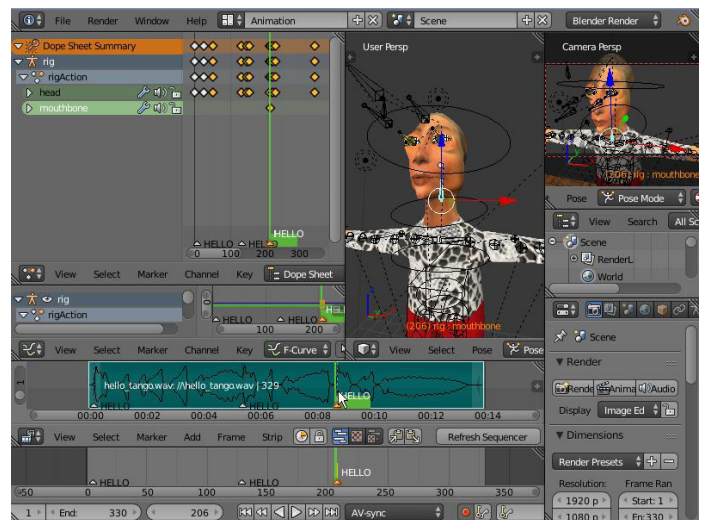


You can go on animating the head along the timeline to get more keyframes.

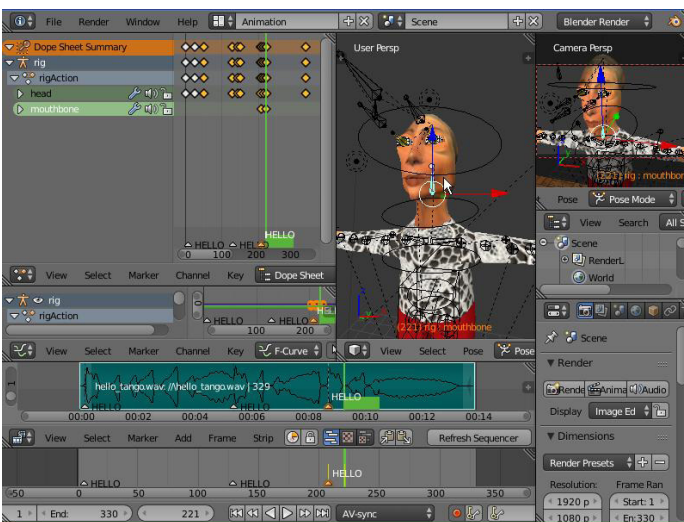
In the same manner you have to rotate, move and scale the other body parts rigs to get keyframes so the character Blender can move to the music.



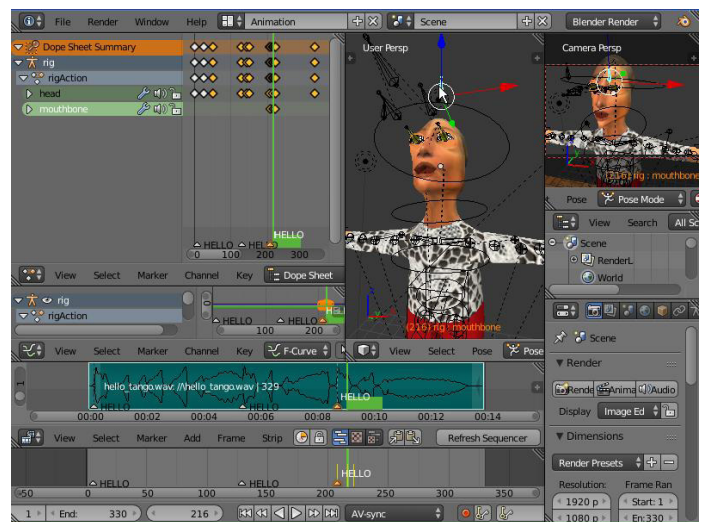
You can move the lips to the words - to lip sync to the sound. You can do it complicated with a lot of mouth shapes suiting the different sounds. It can be good or perhaps too much mouth movements. Perhaps you can cheat a bit and only let Blendan open and close the mouth and it can be enough to cheat the eye.



Click the button for automatically creating keyframes and then go to the frame where the hello-sound starts and move the mouth bone just a little to make a keyframe with the mouth still shut.



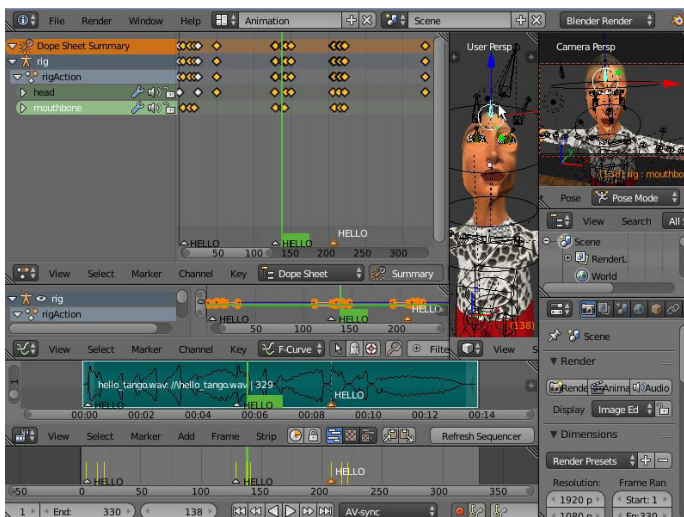
Then go to the frame there the hello sound ends and move the mouthbone just a little to make a keyframe with the mouth still shut.



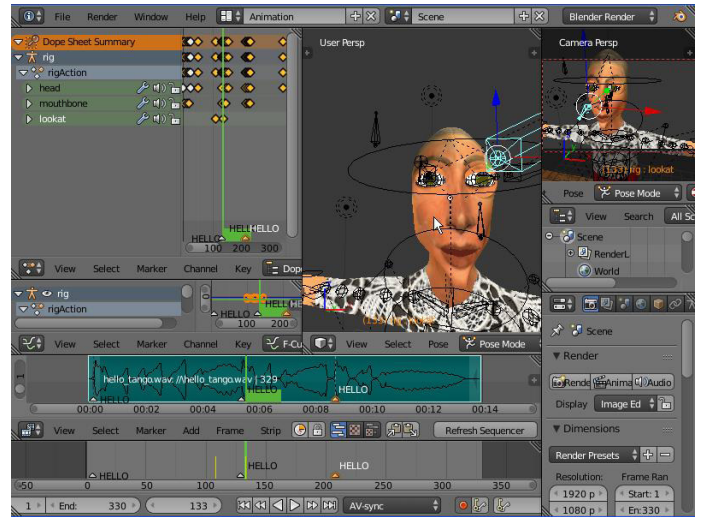
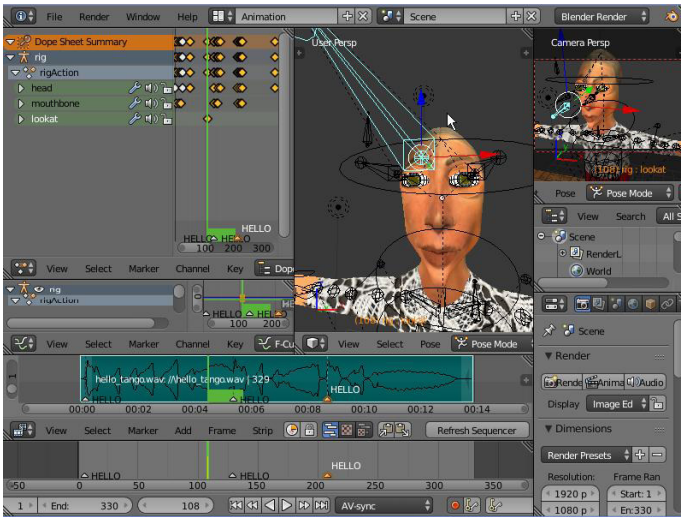
Go to a frame between the two earlier keyframes and move the mouthbone when the word hello is uttered.

Play to see the result - hopefully you are satisfied.

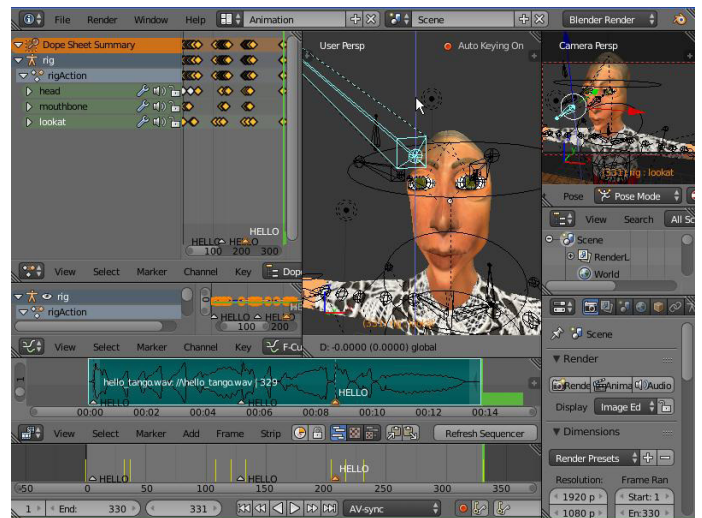
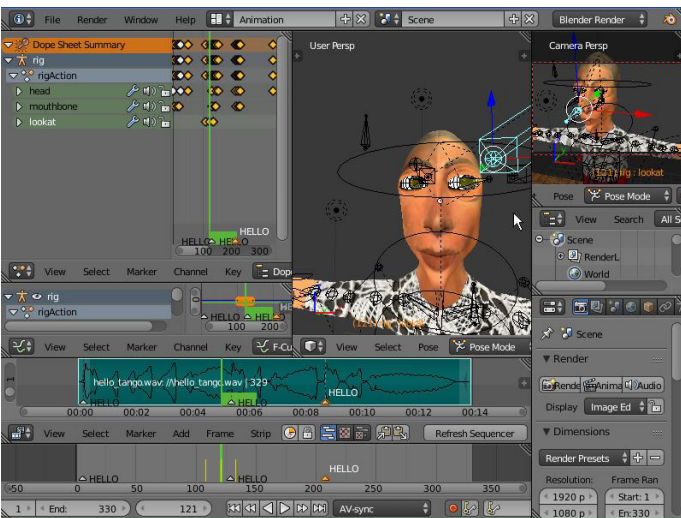
In the word hello the mouth has several positions - there are two vowels in the word - so you can make several keyframes when the word is uttered - but it can become too much flapping



You also have to lip sync to the other two hellos.

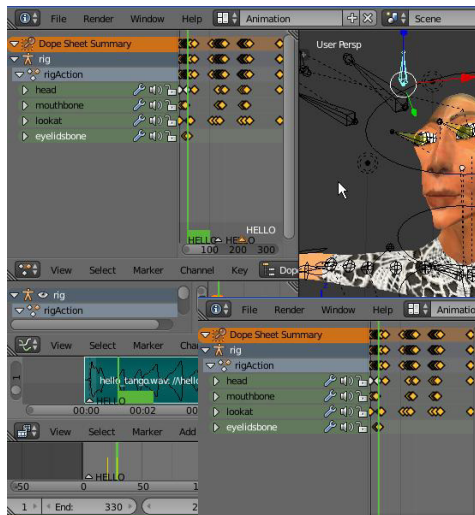
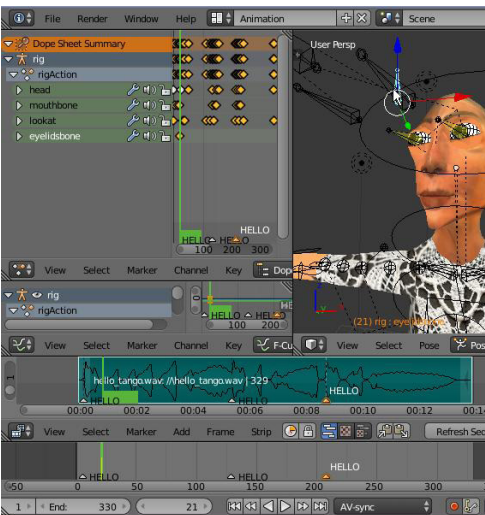


Then you can animate the eye movements in the same way. Here two keyframes have been created on frame 108 and frame 133 just moving the eyebone a little bit.



And then a keyframe on frame 121 with the eyebone to the side.

Just continue to get Blender to look to the sides, up and down.



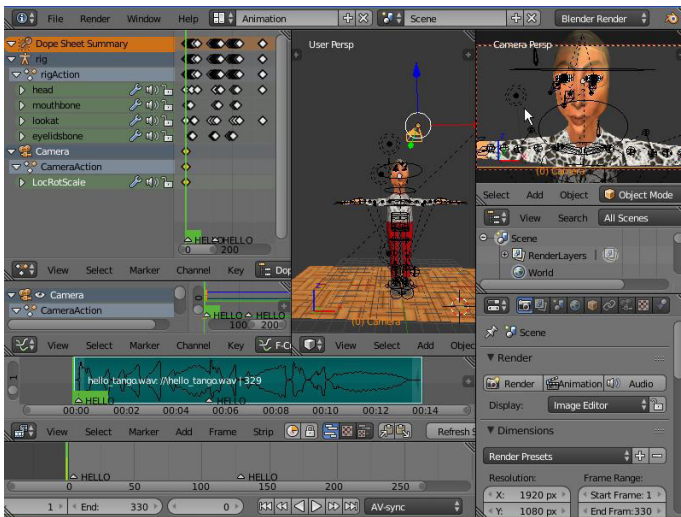
To get the character to blink with the eyelids are done in the same way. Two keyframes is created just by moving the eyelids bone just a little bit - the eyelids opened on both. And between the two keyframes a keyframe with the eyelids closed.

Some blinkings will contribute to the realism. Too many give a nervous impression.

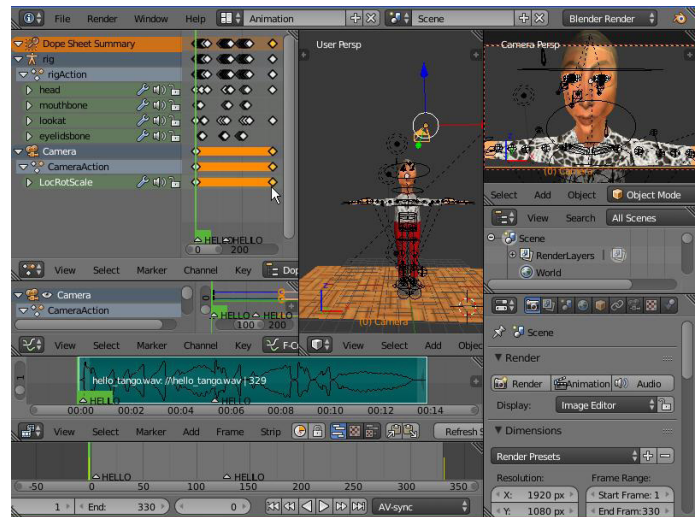
If you want to delete a keyframe you can go to it on the timeline and then X or the Delete-key.

To move keyframes you have to do it in the Dope Sheet window.

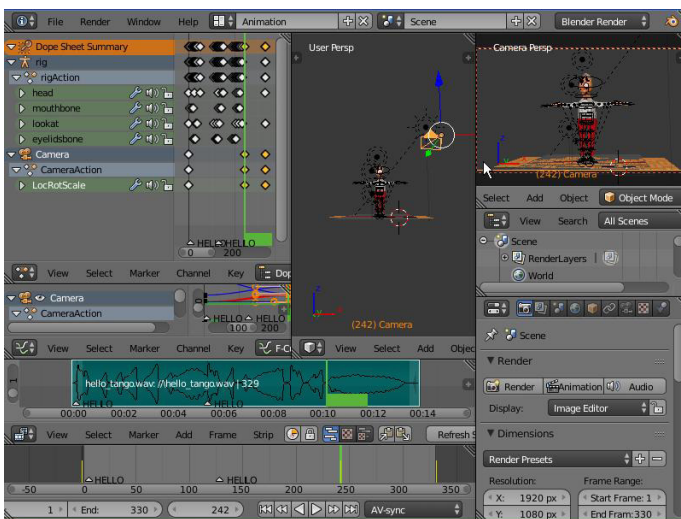




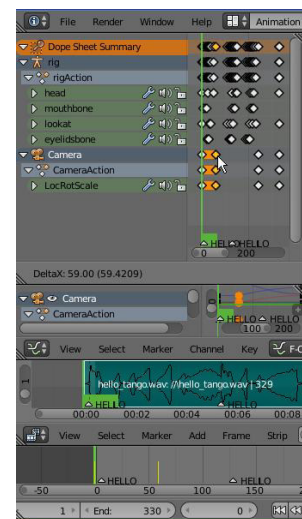
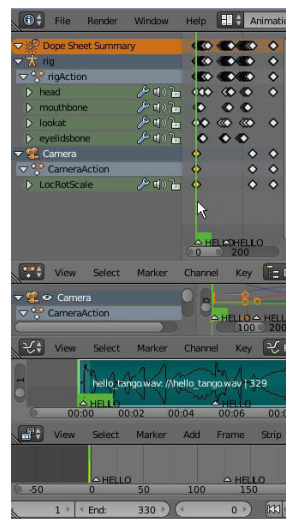
The camera you can also give keyframes. You can move the camera in the 3D window. You can also right click the camera window to select it and then zoom rotate and pan the scene to make keyframes.



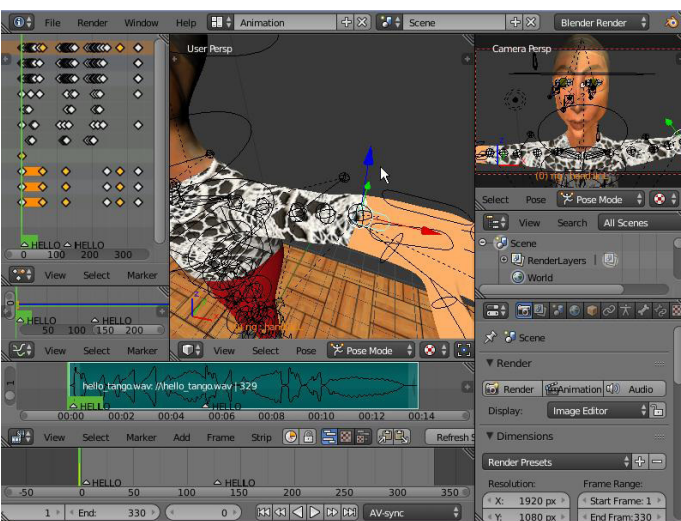
If you want to loop the animation you can make a copy of the first camera keyframe with SHIFT+D in the Dope Sheet window and then move the copy to the last frame.



Here the camera has been zoomed out and a new keyframe for the camera has been created.

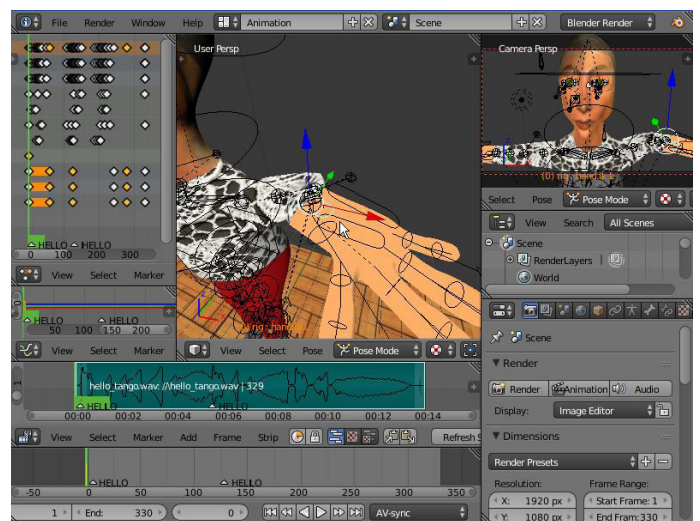


To get the camera to stand still you have to select a keyframe for the camera on a certain frame in the Dope Sheet window and then SHIFT+D and move it a bit along the timeline.



The arm rig you can move with - G - or rotate with - R - if you grab a certain part on the wrist.

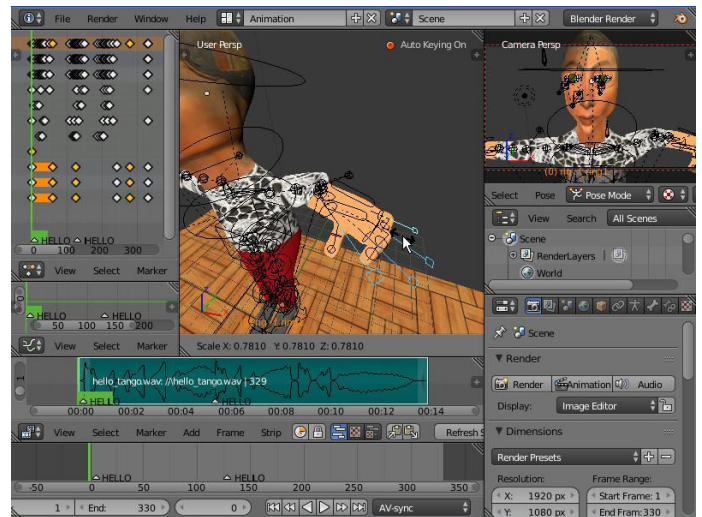
To go to a certain frame on the timeline you can use the arrow keys.



If the arm has IK - Inverse Kinematics you can get both the upper arm and the forearm to move - moving the hand. Has the arm got FK - Forwards Kinematics you have to move the upperarm and the forearm separately.



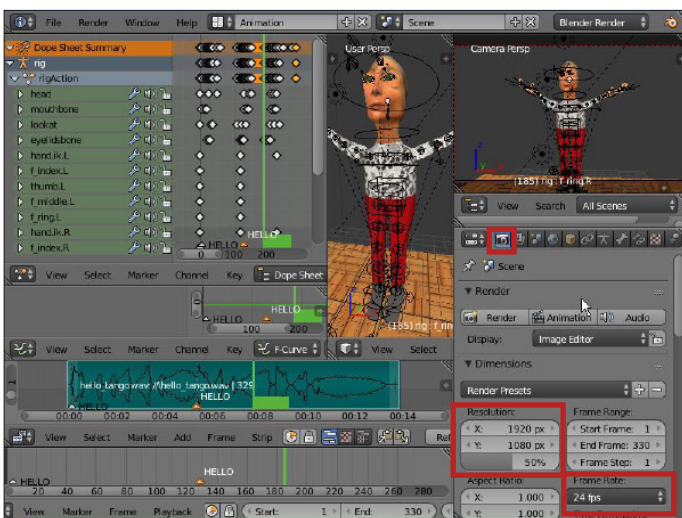
You can select one or several of fingers rig ...



and then - S - to scale and the finger-s will bend.

If you want some part to go back to the start position - select it and then ALT+G to take movements away, ALT+R to take rotations away and ALT+S to take scalings away.

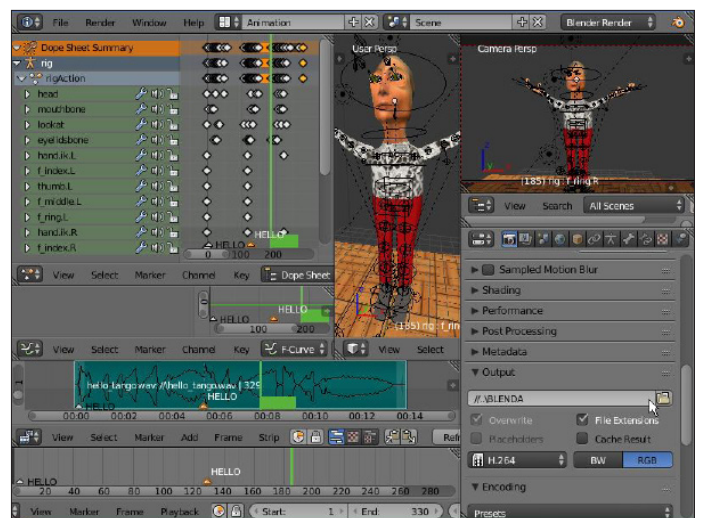
If you want all parts to go to the start position select the whole rig with A and then ALT+G, ALT+R and ALT+S



To render an animation you have to go to the Camera and then click the button Animation but before that you have to choose some values.

The size in pixels here has the value 1920*1080 but the size created is 50% of those values - you can change the percentage.

Frames per second is here 24 fps(frames per second)



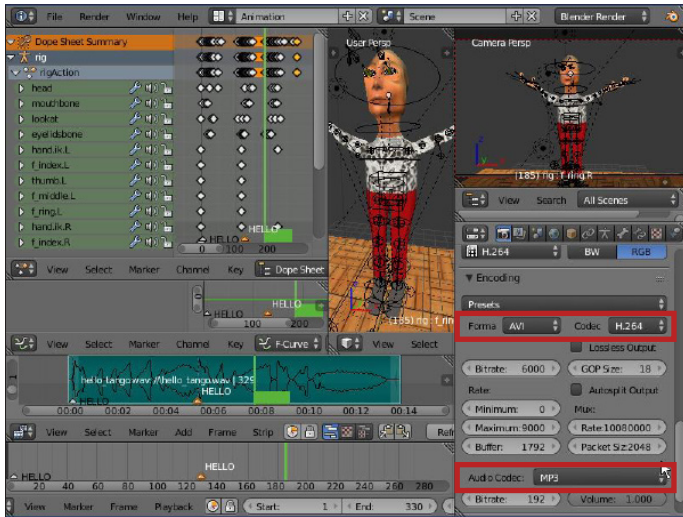
Under Output you have to go to your hard drive and choose a map and name the movie.

Here the movie is named BLEND.A.

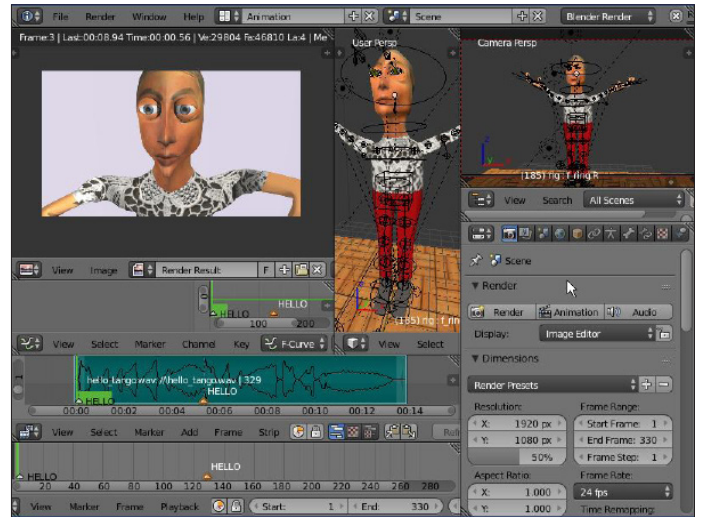


You can save the movie as lots of images so if your computer dies you have hopefully got some images on your hard drive.

You can also save it a movie-format eg. in H.264



Under Encoding you need to choose fileformat. Here AVI with Codec: H.264 is chosen - you can choose some other format - there are many to choose from.
And you have to choose some file format for Audio Codec. Here MP3 is chosen.



Now it is time to click the button Animate.
And the animation will be created frame by frame.
It can take some time!
Then you have to go to your hard drive and play the animation movie.
You can upload it to Internet to give others the delight of seeing your result.
To let the feelings to flow and let the thoughts to go!